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TEMPLE OF DENDUR NETWORKS AND LINKS

Introduction

The Temple of Dendur, now preserved at the Metropolitan Museum of Art in New York City, is an exemplary model of the diverse stone-building techniques employed in ancient Egypt. Hieroglyphic inscriptions are chiseled into the temple's pillars and walls (Figure 2), reflecting the traditional stone carving methods utilized in the creation of monumental structures. Contrastingly, the roof features intricate imagery that appears to be high relief carving into the stone, characterized by a smoother, contoured and more refined finish carved deeply and project significantly from the background, creating a more dramatic three-dimensional effect (Figure 1). This juxtaposition of techniques within the same edifice suggests the use of two distinct technologies, with one being more advanced than the other. Interestingly, the more advanced carvings seem to depict an unknown object, followed by a Djed pillar (electric conductor) of the Old Kingdom, what appears to be a Tyet, a New Kingdom reference whose early meaning is still unknown, perhaps a lamp. This intriguing sequence raises the possibility that the Temple of Dendur might have served as some form of ancient power plant, potentially from an even older time. This paper will delve into the implications of these observations and examine the potential existence of advanced technological concepts in antiquity.

Figure 1: Temple of Dendur roof - High Relief Carving

Figure 2: Temple of Dendur pillar - Hammer and chisel

Djed Pillars (Conductor) Carvings

The carvings in the Temple of Dendur portray a remarkable structure, consisting of what could be a limestone pillar at its core, encircled by rings of granite and basalt, and topped with a basalt cap, closely resembling the iconic Djed pillar. This sophisticated assembly showcases the ancient Egyptians' profound understanding of material properties and electrical conductivity.

- Limestone Core: The core of the conductor is made of limestone, known for its natural conductive properties. This forms the primary pathway for electrical currents.
- Granite and Basalt Rings: Surrounding the limestone core are rings of granite and basalt. While granite is minimal and does not exhibit conductive properties, basalt is another excellent conductor. Interestingly, when combined with limestone, the overall conductivity of the structure is significantly enhanced.
- Basalt Cap: The structure is topped with a basalt cap, completing the conductor and ensuring a continuous conductive pathway.

Modern tests have confirmed the effectiveness of this design. By placing an electromagnetic field generator underneath the stone conductor, it has been demonstrated that the combination of limestone and basalt enhances their conductive capabilities, while granite remains non-conductive. Despite these findings, the source of power used by the ancient builders to activate their conductors remains a mystery, leaving room for speculation and further research into the technological advancements of ancient civilizations.

The Djed Pillar symbolizes Osiris's power to renew life after death.

In the Egyptian Book of the Dead, Spell 155 For A Djed-Pillar of Gold states "Raise yourself, O Osiris, place yourself on your side, that I may put water beneath you and that I may bring you a djed-pillar of gold so that you may rejoice at it."

Could sonoluminousness have played a role in the activation of a Djeds conductive power?

Tyet Construction

The Tyet, whose origins may predate the Old Kingdom, is believed to symbolize protection, life, and welfare. These attributes can be metaphorically linked to the concept of light overcoming darkness. During the New Kingdom, Tyet amulets were crafted from materials such as red jasper, carnelian, and red glass, each imbued with distinct symbolic meanings. The Tyet can be interpreted as an object of safety, refuge, and comfort, akin to modern lamps that illuminate our homes, bus shelters, roadways, and streets, providing light and security to those below.

The lamp associated with the Temple of Dendur is an intriguing piece of ancient engineering. While detailed information about its entire structure remains elusive, certain key aspects of its construction have been discerned:

- The lamp could employ the same material characteristics as a conductor.

The rest of the lamp's construction remains a mystery, with insufficient evidence to determine the exact materials and design elements employed. Despite the incomplete picture, the use of a conductive limestone core suggests an understanding of electrical conductivity, hinting at the potential for advanced technological concepts in the ancient world. Further research and discovery may shed light on the complete construction and functionality of this artifact.

Figure 3: Djed pillar and Tyet. The Egyptian Book of the Dead Spell 29B - For A Heart-Amulet of Sehret-Stone.

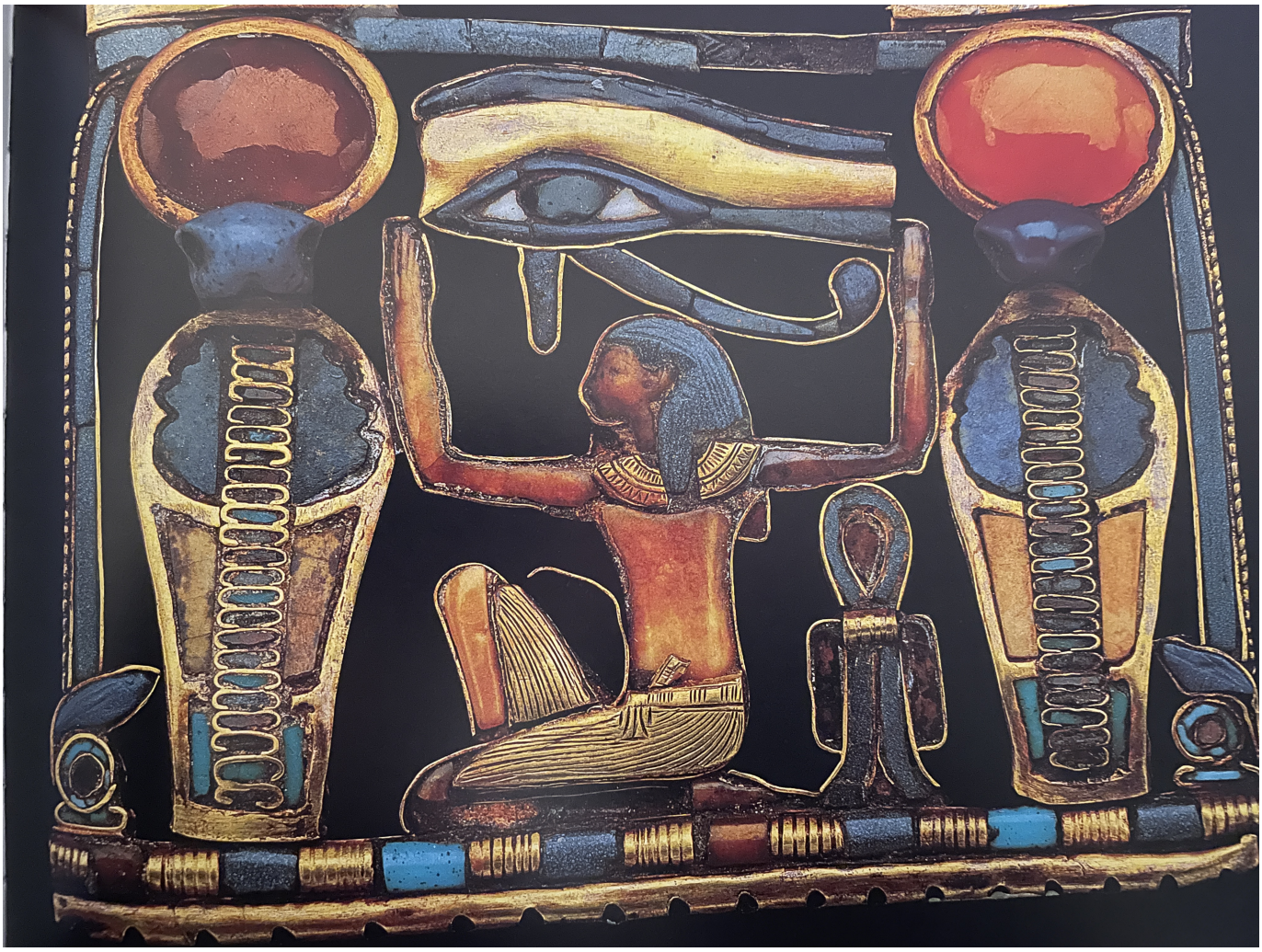

Figure 4: Jewelled depiction of the Sacred Eye, image of the Sun. From the tomb of Tutankhamun. Egyptian Book of the Dead Spell 167 - For Brining a Sacred Eye By N.

A jeweled representation of the Sacred Eye, an image of the sun (Spell 167), features prominently in this artifact. The kneeling figure holding the eye of the sun-god which symbolize the sun's destructive power. The two uraei on either side the central figure serve as symbols of protection, mirrored by the Tyet beneath the figure's left arm.

The Sacred Eye represents protection, health, restoration, all aspects of the Sun giving protection from darkness by illumination, healthy resources and the regrowth of flora or photosynthesis, while the two uraei might symbolize sort of generators or some sort of illumination system with the coil imagery along the uraei potentially depicting an electrical coil designed like a snake's underbelly, the orange Suns above their heads as lighting or signaling

system. Additionally, the Tyet could represent a lamp, as the entire artifact embodies protection, possibly signifying light and darkness figuratively.

The Ankh

While traditionally, the Ankh is known to represent life, eternal life, and the sustenance of life, its looped top can evoke the image of light bulb with the vertical line representing the body of the lamp and the crossbar as the wick holder. This symbol was often depicted in the hands of gods, goddesses, and pharaohs or light itself, signifying their divine powers to bestow life, photosynthesis, and protect the living and the dead, perhaps using light to protect from darkness.

Figure 5: The Egyptian Book of the Dead Spell 126. “The Rising Sun (light) is shown elevated by the sign for “life” (light/lamp) arising out of a dyed pillar (conductor), a symbol of stability…”

Figure 6: Re about to enter the day sky while carrying an Ankh.

The Ankh, also referred to as the "key of life" or "cross of life," is traditionally understood to symbolize life, immortality, and the sustenance of life. Its shape, resembling a looped cross, has sparked various interpretations. Interestingly, the Ankh's form also bears a resemblance to the ancient oil lamps used in daily Egyptian life. Given that light is essential for life, the Ankh as a lamp could embody the idea of light as a sustainer of life. Sunlight drives photosynthesis, the fundamental process by which plants produce food and oxygen, vital for the survival of all living beings. In this context, the Ankh's association with life might extend beyond metaphor to reflect the tangible importance of light.

Figure 7: Re about to enter the night sky while carrying an Ankh.

Connection Between Conductors and Lamps

The flooring of the Temple of Dendur plays a critical role in establishing the connection between the conductors and the lamps. Constructed from conductive materials like limestone or basalt, the floor serves as an extensive network that facilitates the flow of electrical currents throughout the temple. This design choice underscores the ancient Egyptians' sophisticated understanding of material properties and their practical applications.

- Conductive Flooring: The use of limestone or basalt for the floor ensures a continuous conductive pathway, allowing electrical currents to travel seamlessly between the conductors and the lamps. The conductive nature of these materials enhances the overall efficiency of the system.
- Granite Walkways: To accommodate movement within the temple, granite, a non-conductive material, is strategically used as walkways. These granite paths provide safe passage for individuals navigating the temple, preventing unintended interference with the electrical system.

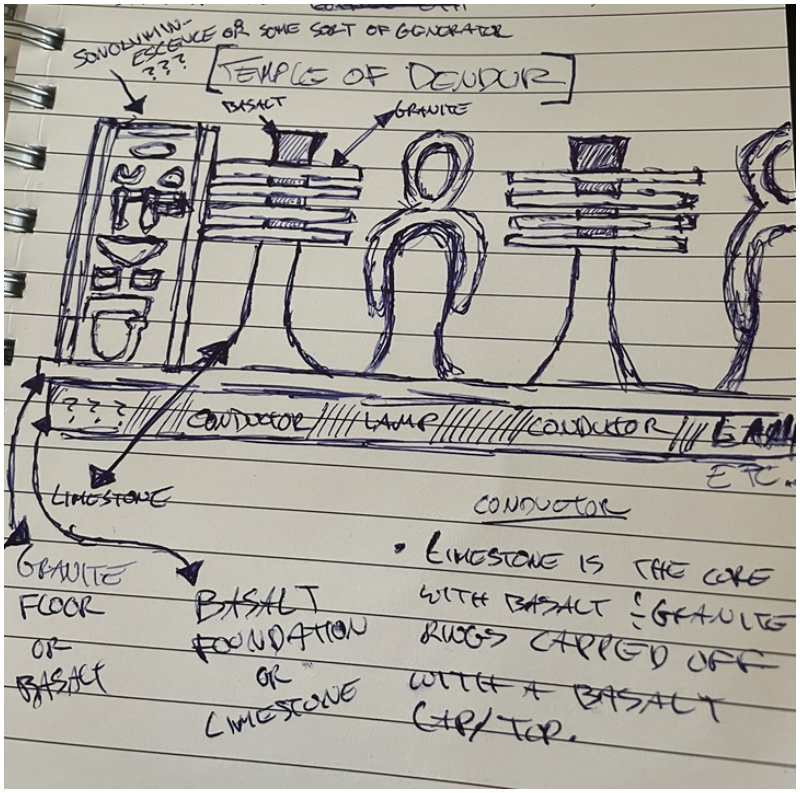

Figure 8: A quick sketch while I visited The Met

This ingenious combination of conductive flooring and non-conductive walkways reflects a deliberate and advanced approach to the architectural and functional design of the Temple of Dendur. While the precise source of power remains a mystery, the thoughtful integration of these materials points to a deep understanding of electrical conductivity and its potential applications in ancient times.

The Temple of Dendur was situated proximal to the Nile River, similar to the Osirian structure. Observations indicate that the water levels in the Osirian refill upon extraction and have unique characteristics compared to wells nearby, suggesting the presence of aquifer connected to the Nile and possibly extending to the Pyramids of Giza. This raises the hypothesis that these temples may have functioned as water collection facilities, either to supply potable water to the local inhabitants or for other technological purposes not yet fully comprehended. The construction materials and their electromagnetic properties, when combined, could imply the use of some sort of sonoluminescence technology for energy generation in nearby communities.

Historical records from Roman and Egyptian sources document that individuals would present food offerings at the Temple of Dendur in hopes of securing favorable seasons, health, or fortune. These temples, during ancient times extending beyond the Old Kingdom, provided essential resources such as power and sustenance. Following significant flood events, the few remaining survivors would have heard of these locations and their provisions. Over successive generations, it is plausible that people brought food offerings or sacrifices to these temples, hoping to attain the power and sustenance described in their legends.

The view that the djed pillar served as an electric conductor connected to ankhs or tyets as lamps presents an intriguing possibility of ancient Old Kingdom, or even later, Egyptian technological prowess. The djed, traditionally associated with Osiris and symbolizing stability and power, might have been part of a sophisticated electrical system if viewed through this innovative lens.

Considering the electrochemical knowledge demonstrated by other ancient civilizations, such as the potential use of the Baghdad Battery, it is conceivable that the Egyptians could have harnessed electricity for practical applications. The idea that ankhs or tyets could have acted as electric lamps, possibly aiding in lighting homes and warmth, aligns with the Egyptians' deep reverence for solar energy and its life-sustaining properties.

Final Thoughts

The Temple of Dendur exemplifies an impressive amalgamation of architectural sophistication and potential technological innovation in ancient Egypt. The distinct variance in stone carving techniques between the temple's pillars and its roof inscriptions indicates the utilization of advanced methods, possibly signifying a functional purpose beyond ceremonial or religious practices.

The intricate representation of the Djed pillar, composed of materials with conductive properties such as limestone, granite, and basalt, lends support to the hypothesis that these temples functioned as ancient power facilities. The precise arrangement of these materials highlights a profound comprehension of material science and electrical conductivity, which is exceptional for the era.

Modern experiments have validated the enhanced conductivity of the limestone and basalt combination, pointing to a practical application of these materials that ancient Egyptians might have harnessed. Although the exact source of the power remains a mystery, the thoughtful integration of conductive materials in the temple’s design underscores a sophisticated approach to technology.

The findings highlighted in this paper urge a reevaluation of our understanding of ancient Egyptian technology and its applications. It opens new avenues for research into the extent of technological sophistication achieved by these early civilizations and how their innovations might have been preserved or lost over time. The Temple of Dendur stands as a testament to the ingenuity and foresight of its builders, offering valuable insights into the technological prowess of ancient Egypt.

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